

## REMARKS

Claims 1-30 and 38-45 stand rejected. Claims 1 and 38 have been amended. Claims 46 and 47 are newly added. Claims 39 and 41 have been cancelled. Claims 1-4 and 6-9 are rejected. Claims 1-30, 38, 40 and 42-47 are presently pending. In view of this amendment and the following remarks, reconsideration of the outstanding office action is respectfully requested.

The basis for newly added claim 46 is found in paragraph [0026] of the specification. The basis for newly added claim 47 is found in paragraph [0033] of the specification.

### **Rejection under 35 U.S.C. § 112, Second Paragraph:**

The Examiner has rejected claims 1-30 and 38-45 under 35 U.S.C. § 112, second paragraph, indicating that term "other chambers" in claim 1 is unclear. Applicant has amended claim 1 to now recite "said plurality of reactant chambers" as suggested by the Examiner. Therefore it respectfully urged that this rejection is now moot.

### **Rejection under 35 U.S.C. § 112, First Paragraph:**

The Examiner has rejected claims 38-41 under U.S.C. 112, first paragraph, indicating that the specific time intervals between the steps of pumping and reactants into the detection chamber constitutes new mater. The rejection over claim 38 is believed to be in error as claim 38 does not relate to the time interval referenced by the Examiner. Furthermore, Applicant has cancelled claims 39 and 41 rendering this rejection moot over these claims. Finally, Applicant has amended claim 40 to now recite the time interval between introducing the sample into the detection unit and detecting of target nucleic acid. Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

### **Rejection under 35 U.S.C. § 103 over Butland in view of Eichen and Anderson:**

The Examiner has rejected claims 1-7, 10-19, 30, 38, 42 and 45 under 35 U.S.C. § 103(a) as being unpatentable over Butland et al. (USPN 6,030,657) in view of Eichen et al. (WO 99/57550) and Anderson et al. (USPN 6,168,948). This rejection is respectfully urged as in error as the cited reference fail to disclose a

detection unit having an insertable detection cartridge having a detection chamber therein.

As indicated by the Examiner Butland et al. "does not teach providing a plurality of reactant chambers and a detection chamber, or the particular detection technology claimed." Butland et al. further fails to teach or suggest a detection unit having an insertable detection cartridge as presently claimed.

Neither Eichen et al. nor Anderson et al. teach this limitation. Eichen et al. discloses a method for electronic detection of a target in a sample. Anderson et al. relates to a nucleic acid diagnosis device. Neither reference discloses a detection unit having an insertable detection cartridge. The insertable detection cartridge allows the user to easily interchange the parameters of the detection chamber, and thereby allow for the detection of distinct target nucleic acids. This enables the user to quickly adjust the detection unit to switch from testing for a first set of target nucleic acids to a second set of target nucleic acids by simply replacing the detection cartridge.

As none of the cited references teach or suggest a detection unit having an insertable detection cartridge as presently claimed it is respectfully requested that this rejection be reconsidered and withdrawn.

Claims 2-7, 10-19, 30, 38, 42 and 45 benefit from dependency from claim 1, which as discussed above, is patentable.

**Rejection under 35 U.S.C. § 103 over Butland in view of Eichen and Anderson and further in view of Stone and McMahon:**

The Examiner has rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over Butland et al. (USPN 6,030,657) in view of Eichen et al. (WO 99/57550) and Anderson et al. (USPN 6,168,948) as applied to claims 1-7, 10-19, 30, 38, 42 and 45 above and further in view of Stone (USPN 5,512,436) and McMahon et al. (USPN 5,310,650).

As discussed above, none of Butland et al., Eichen et al. nor Anderson et al. teach or suggest a detection unit having an insertable detection cartridge as presently claimed. Furthermore, neither Stone nor McMahon et al. teach this limitation.

Claim 8 further benefits from dependency from claim 1, which as discussed above, is patentable. Therefore it is requested that this rejection be withdrawn.

**Rejection under 35 U.S.C. § 103 over Butland in view of Eichen and Anderson and further in view of Connolly:**

The Examiner has rejected claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Butland et al. (USPN 6,030,657) in view of Eichen et al. (WO 99/57550) and Anderson et al. (USPN 6,168,948) as applied to claims 1-7, 10-19, 30, 38, 42 and 45 above and further in view of Connolly (USPN 6,248,529).

As discussed above, none of Butland et al., Eichen et al. nor Anderson et al. teach or suggest a detection unit having an insertable detection cartridge as presently claimed. Furthermore, Connolly does not teach this limitation.

Claim 9 further benefits from dependency from claim 1, which as discussed above, is patentable. Therefore it is requested that this rejection be withdrawn.

**Rejection under 35 U.S.C. § 103 over Butland in view of Eichen and Anderson and further in view of Benardelli:**

The Examiner has rejected claims 24-27 under 35 U.S.C. § 103(a) as being unpatentable over Butland et al. (USPN 6,030,657) in view of Eichen et al. (WO 99/57550) and Anderson et al. (USPN 6,168,948) as applied to claims 1-7, 10-19, 30, 38, 42 and 45 above and further in view of Benardelli (USPN 5,020,831).

As discussed above, none of Butland et al., Eichen et al. nor Anderson et al. teach or suggest a detection unit having an insertable detection cartridge as presently claimed. Furthermore, Benardelli fails to teach this limitation.

Benardelli further comprises non-analogous art. Benardelli relates to printing an ink layer onto a substrate. However, the reference fails to make any reference to placing nucleic acid taggants onto cardboard and instead relies on visual markings.

Claims 24-27 further benefits from dependency from claim 1, which as discussed above, is patentable. Therefore it is requested that this rejection be withdrawn.

**Rejection under 35 U.S.C. § 103 over Bancroft in view of Eichen and Anderson:**

The Examiner has rejected claims 1-6, 10-12, 15-21, 28-30, 38, 42 and 45 under 35 U.S.C. § 103(a) as being unpatentable over Bancroft et al. (USPN 6,312,911) in view of Eichen et al. (WO 99/57550) and Anderson et al. (USPN 6,168,948).

As indicated by the Examiner, Bancroft et al. "does not teach providing a plurality of reactant chambers and a detection chamber, or the particular detection technology claimed." As discussed above, neither Eichen et al. nor Anderson et al. teaches or suggests a detection unit having an insertable detection cartridge as presently claimed.

As none of the cited reference teach or suggest a detection unit having an insertable detection cartridge as presently claimed it is respectfully requested that this rejection be reconsidered and withdrawn.

Claims 2-6, 10-12, 15-21, 28-30, 38, 42 and 45 benefit from dependency from claim 1, which as discussed above, is patentable.

**Rejection under 35 U.S.C. § 103 over Bancroft in view of Eichen and Anderson and further in view of Ryan:**

The Examiner has rejected claims 22 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Bancroft et al. (USPN 6,312,911) in view of Eichen et al. (WO 99/57550) and Anderson et al. (USPN 6,168,948) as applied to claims 1-6, 10-12, 15-21, 28-30, 38, 42 and 45 above and further in view of Ryan (USPN 5,982,282).

As discussed above, none of Bancroft et al., Eichen et al. nor Anderson et al. teach or suggest a detection unit having an insertable detection cartridge as presently claimed. Furthermore, Ryan does not teach this limitation.

Ryan further comprises non-analogous art. There lacks any motivation to combine Ryan with the previously cited references. Ryan makes no reference to the use of or detection of nucleic acid taggants. Ryan merely relates to a bias magnet mounted into a housing. Therefore, one skilled in the art would not be motivated to combine the cited references as applied in this rejection.

Claims 22 and 23 further benefit from dependency from claim 1, which as discussed above, is patentable. Therefore it is requested that this rejection be withdrawn.

**Rejection under 35 U.S.C. § 103 over Bancroft in view of Eichen and Anderson and further in view of Heller:**

The Examiner has rejected claim 43 under 35 U.S.C. § 103(a) as being unpatentable over Bancroft et al. (USPN 6,312,911) in view of Eichen et al. (WO

99/57550) and Anderson et al. (USPN 6,168,948) as applied to claims 1-6, 10-12, 15-21, 28-30, 38, 42 and 45 above and further in view of Heller et al. (USPN 5,849,486).

As discussed above, none of Bancroft et al., Eichen et al. nor Anderson et al. teach or suggest a detection unit having an insertable detection cartridge as presently claimed. Furthermore, Heller et al. does not teach this limitation.

Claim 43 further benefits from dependency from claim 1, which as discussed above, is patentable. Therefore it is requested that this rejection be withdrawn.

**Rejection under 35 U.S.C. § 103 over Bancroft in view of Eichen and Anderson and further in view of Kopf-Sill:**

The Examiner has rejected claim 44 under 35 U.S.C. § 103(a) as being unpatentable over Bancroft et al. (USPN 6,312,911) in view of Eichen et al. (WO 99/57550) and Anderson et al. (USPN 6,168,948) as applied to claims 1-6, 10-12, 15-21, 28-30, 38, 42 and 45 above and further in view of Kopf-Sill (US 2001/0020589).

As discussed above, none of Bancroft et al., Eichen et al. nor Anderson et al. teach or suggest a detection unit having an insertable detection cartridge as presently claimed. Furthermore, Kopf-Sill does not teach this limitation.

Claim 44 further benefits from dependency from claim 1, which as discussed above, is patentable. Therefore it is requested that this rejection be withdrawn.

**Rejection under 35 U.S.C. § 103 over Butland in view of Eichen and Anderson and further in view of Heller:**

The Examiner has rejected claim 43 under 35 U.S.C. § 103(a) as being unpatentable over Butland et al. (USPN 6,030,657) in view of Eichen et al. (WO 99/57550) and Anderson et al. (USPN 6,168,948) as applied to claims 1-7, 10-19, 30, 38, 42 and 45 above and further in view of Heller et al. (USPN 5,849,486).

As discussed above, none of Butland et al., Eichen et al. nor Anderson et al. teach or suggest a detection unit having an insertable detection cartridge as presently claimed. Furthermore, Heller et al. does not teach this limitation.

Claim 43 further benefits from dependency from claim 1, which as discussed above, is patentable. Therefore it is requested that this rejection be withdrawn.

**Rejection under 35 U.S.C. § 103 over Butland in view of Eichen and Anderson  
and further in view of Kopf-Sill:**

The Examiner has rejected claim 44 under 35 U.S.C. § 103(a) as being unpatentable over Butland et al (USPN 6,030,657) in view of Eichen et al. (WO 99/57550) and Anderson et al. (USPN 6,168,948) as applied to claims 1-7, 10-19, 30, 38, 42 and 45 above and further in view of Kopf-Sill (US 2001/0020589).

As discussed above, none of Butland et al., Eichen et al. nor Anderson et al. teach or suggest a detection unit having an insertable detection cartridge as presently claimed. Furthermore, Kopf-Sill does not teach this limitation.

Claim 44 further benefits from dependency from claim 1, which as discussed above, is patentable. Therefore it is requested that this rejection be withdrawn.


Applicant has reviewed the prior art made of record and believe that singly or in any suitable combination, they do not render the claims unpatentable.

In view of the foregoing remarks and amendment, the claims 1-30, 38, 40 and 42-45 are now deemed allowable and such favorable action is courteously solicited.

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

Respectfully submitted,

10/3/08  
Date

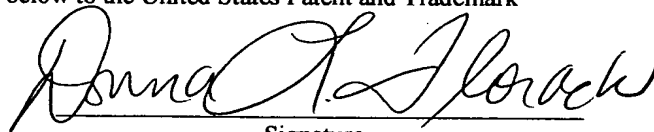
  
Dennis M. Connolly  
Reg. No. 40,964

**CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]**

I hereby certify that this correspondence is being:

- ☒ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450
- ☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) \_\_\_\_\_

10/3/08  
Date

  
Signature  
Donna L. Florack  
Type or Print Name